

REMARKS

Claims 1-15 and 17-22 are active. Claim 16 is canceled and claim 22 is new.

Claims 1-7, 9-11, 14-15, 17, 18 and 20-21 are rejected under 35 USC 102 as being anticipated by Hayashi. Claims 8, 12, 13 and 19 are rejected under 35 USC 103 as being unpatentable over Hayashi in view of Antoniadis ('017).

Amended claims 1-15, 17-21 and new claim 22 are submitted for the Examiner's reconsideration.

Certain of the claims are amended in the interest of clarity and consistency and to improve their form. No new matter is introduced.

Amended claim 1 is believed unobvious over Hayashi much less not anticipated by this reference for the following reasons. This claim structure is foreign to Hayashi and the remaining references cited of record. This claim calls for:

A circuit board arrangement for an organic electronic device, comprising:
a preassembled circuit board assembly forming a circuit comprising
a printed circuit board on which are a plurality of interconnected electrical
conductors and at least one active organic electronic component;
the circuit board having a surface on which are disposed a plurality
of electrically interconnected electrical devices including said at least one
active component and said interconnected conductors;
at least one of the interconnected electrical devices comprising the
at least one active organic electronic component, the at least one active
organic electronic component including at least one electrode layer
electrically integrated on the circuit board surface with at least one of the
interconnected devices to form at least a portion of an electrical circuit, the
organic electronic component at least one electrode layer forming a
portion of the active organic electronic component;
the at least one electrode layer of the integrated active organic
electronic component forming a conductive track layer on the surface for
connection to an inorganic semiconductor electrical component
(underlining added)

As to the structure:

the organic electronic component at least one electrode layer forming a portion of the active organic electronic component;
the at least one electrode layer of the integrated active organic electronic component forming a conductive track layer on the surface for connection to an inorganic semiconductor electrical component (underlining added)

This structure is foreign to Hayashi. As claimed, the at least one organic component includes at least one electrode layer. This layer forms a portion of the organic electronic component. This layer also forms a conductive track on the surface of the circuit board for interconnecting the organic component to an inorganic semiconductor component. Thus the claim requires the organic component to have an electrode layer and that this layer is part of the component and the layer also forms a conductor track for interconnecting the organic component to a further but inorganic component. Hayashi does not disclose or suggest this structure. Hayashi does not do what is claimed.

Hayashi ¶ 0147 is cited for disclosing an active organic device. However, amended claim 1 calls for the active organic component to have an electrode layer that is part of the component and that also forms a conductive track layer on the surface for connection to an inorganic semiconductor electrical component. Hayashi is different. This section of the reference refers to Fig. 4C. The electrodes 33 and 34 and semiconductor layer 35 are covered with an insulating film 36. The conductive layer 31 forms a gate electrode. However, the electrodes 31, 33 and 34 are not shown, disclosed or suggested as also forming a conductor track for connection to an inorganic semiconductor component as claimed.

As shown in Fig. 3D, and as described in ¶ 0152, bare chip bonding is used to attach an inorganic semiconductor chip 16s to the wiring pattern 16w. The semiconductor chip 16s is Si and not organic. ¶ 0151. The wiring pattern 16w is not shown to be part of an organic component electrode layer.

Fig 4D shows a laminated structure comprising stacked layers. Organic transistors are used, but there is no disclosure that an electrode of such transistors forms a conductor track as claimed. ¶ 0148.

Fig. 3C shows a wiring pattern comprising wiring 16a and 16b, which may be organic. ¶ 0149 But, there is no suggestion or disclosure of the wiring pattern as comprising an electrode of an organic component as claimed or for connection to an inorganic component. That is, there is no suggestion or showing of an organic electronic component at least one electrode layer forming a portion of the active organic electronic component and also forming a conductor track.

Figs. 4A and 4B disclose a power source. ¶ 0143 - ¶ 0145 This section also does not disclose that an electrode of the disclosed organic components forms a conductor track to an inorganic component as claimed.

Fig. 2E is described as a display layer having electrodes 16a. The reference is not clear that the electrodes 16a of Fig. 2E are the same wiring 16a of Fig. 3C. Also the wiring 16a and 16b of Figs. 2A-2E is shown in Fig. 3A and 3B, all of which do not show or suggest that this wiring forms part of an organic electrical component electrode as claimed and is also interconnected as a conductor track to an inorganic component.

In Figs. 1A and 1B, the display device 10 has display layer 12 and electric layer 14 which are laminated and flexible. ¶ 0083. In ¶ 0085 the reference discloses the electric layer as comprising a number of different electrically functioning components such as a power source, a drive source and so on. But a more detailed description of such circuits is not provided in connection with these figures. Thus the reference is silent as to the construction of these elements and there is no basis in this disclosure to assume the construction of such elements. ¶ 0086 is described in different embodiments in ¶ 0087 through ¶ 0114. None of these embodiments disclose an inorganic device in the assemblies described and here to there is no basis in this disclosure to assume the construction of the various elements to which the patent is silent. Layers 12 and 14 are part of a lamination of flexible layers and thus all must be organic devices as inorganic devices are not disclosed as flexible. No inorganic device is disclosed in these sections.

Figs. 1C -1F are described in ¶ 0116-117 and do not disclose an inorganic component connected as claimed.

The remaining figures and corresponding descriptions have been carefully reviewed and applicants fail to find a suggestion or disclosure of amended claim 1. For example, an inorganic device is disclosed in ¶ 0151 as discussed above. But this device is mounted on wiring mounted on an insulating layer 16d, Fig. 3D, as also discussed above.

In ¶ 0149 Fig. 3C is discussed. Here it is described that with laminated electric layers, a lower wiring 16a is connected via an insulating layer 16d to an upper wiring 16b. A contact hole 16f is formed through layer 16d. The wiring is silver paste (which is not an organic conductor as claimed) or organic conductive material. However, this latter organic conductive material is not disclosed as forming an electrode of an organic active component as claimed. The desired contact hole is formed by screen printing not disclosed as having any relationship to the formation of an organic active electrical component.

The Action at page 7 misconstrues applicants' argument that no active organic component is shown on layer 16d. Applicants' statement is true. The active element shown is a Si IC chip 16s and not an organic device as shown in the other figures. While an organic transistor is disclosed in the reference, this has nothing to do with Fig. 3D, which is directed to different inorganic Si IC chip subject matter. There is no suggestion that the wiring mounted on the insulating layer 16d in this figure forms an electrode that is part of an organic device as claimed. Certainly this wiring is different than the so called layers 12 and 14 of Figs. 1A and 1B and the other figures. There is no inherent disclosure of what is claimed in this reference. That is, there is no express disclosure of the Fig. 4D embodiment with the other disclosed embodiments corresponding to what is claimed.

While bits and pieces of what is claimed is disclosed in unrelated and unconnected different embodiments of the different figures, this disclosure is insufficient

to provide an inherent anticipation of what is claimed. At best there is only disclosed unrelated aspects of different structures in different embodiments. This amounts to a proscribed invitation to experiment with mere possibilities. Inherent disclosure with respect to anticipation or obviousness rejections requires more than mere possibilities. "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). MPEP 2112 IV.

While Hayashi appears to disclose various bits and pieces of what is claimed, there is no express inherent suggestion or disclosure of what is claimed. If the Examiner persists, he is respectively asked to point out where an electrode of an organic device is expressly disclosed that forms a conductive track layer on the surface

of a PCB for connection to an inorganic semiconductor electrical component as claimed in claim 1. As noted above, the Fig. 3D disclosure does not disclose the conductors on layer 16d as forming a part of an organic component electrode. Figure 4C, disclosing the so called organic electronic component, does not disclose in the corresponding text what the electrode layers 31, 33 and 34 are connected to. Such connections are not inherent, but at most are based on mere proscribed possibilities. The Hayashi reference does not go so far. The Action at page 7 describing the disclosure in ¶ 0149 is misplaced as this disclosure is not tied in with the structure of Fig. 4C and in any case the use of conductive vias does not form a basis for concluding such vias as disclosed form a transistor electrode such as disclosed in Fig. 4C, which is different than that as claimed.

The remaining references cited of record, cited for different reasons against certain of the dependent claims, are believed equally foreign to amended claim 1, which is believed allowable.

Claim 17 includes similar structure as in claim 1 and is believed allowable for similar reasons.

New claim 22 also includes similar structure as in claim 1 wherein the term "electrode" is replaced with the term "functional layer." No organic electronic device is disclosed or suggested in Hayashi which has a functional layer that is also formed into a conductor track for connection to an inorganic component as claimed for reasons similar to those given above in respect of claim 1. This claim is believed allowable.

The remaining claims depend from the independent claims, include all of the structure therein, and are believed allowable for at least the same reasons.

Since claims 1-15, 17-22 have been shown to be in proper form for allowance, such action is respectfully requested.

Enclosed is an RCE, a separate paper requesting a one month extension of time and a check in the amount of \$120 for the extension fee.

No fee is believed due for the added independent claim as a claim has been canceled (claim 16) such that the total number of claims is the same and the total number of independent claims is three which have been previously paid for. Thus, no further fee is believed due for this paper.


However, the Commissioner is authorized to charge or credit deposit account 03 0678 for any under or overpayments in connection with this paper.

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Date